

Nano Science, Technology and Industry Scoreboard

Nanotechnology Policies Evaluation Reports in the World

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Over the past few decades, many countries around the world have sought to develop and implement various strategies and programs in the field of nanotechnology for the purpose of development in this vital technology. Here the titles and time periods for the policies used by different countries in the field of nanotechnology, policy evaluation reports, and assessment bodies are presented.

One of the prerequisites for expanding nanotechnology is the evaluation of the policy implementation stage. Different countries, depending on their diverse science and technology governance frameworks, have devised different mechanisms for this purpose and have published their policy evaluation reports in the field of nanotechnology.

In some countries, nanotechnology evaluation reports are related to the evaluation of the implementation of a national program. Depending on the varied governance mechanisms in countries, these reports are compiled by a particular entity in charge of nanotechnology, an authority in science and technology or other independent institutions. In these reports, the extent of progress on the program's goals, activities in line with various programs, the indicators used for the evaluation of the program, etc., are examined. A collection of documents on policy evaluation published in different countries are collected on the StatNano Policy Database.

The present motion graphic displays the titles and time periods for the nanotechnology policies, policy evaluation reports, and evaluator bodies in different countries.

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In the following, some of the evaluation reports are introduced. The order of the countries is based on the possession of the largest number of evaluation reports.

a) In the <u>United States</u>, the National Nanotechnology Initiative (NNI) is a national R&D program implemented by more than 20 independent departments and agencies. In total, 32 evaluation reports of NNI have been published so far. Under the program, three types of NNI evaluation reports are published regularly and periodically.

The first is the Assessment of the National Nanotechnology Initiative, published by the President's Council of Advisors on Science and Technology. To date, six reports have been published under this title since the launch of NNI, which can be accessed here. While reviewing the actions taken in line with NNI goals, these reports also provide recommendations at the end of each section.

Another sort of nanotechnology Evaluation reports, published periodically in the <u>United States</u>, is the Review of the National Nanotechnology Initiative published by the National Academies of Sciences, Engineering, and Medicine. Thus far, five reports have been published under this title in different years, which are available <u>here</u>. Having examined the ecosystem of nanotechnology research and development in the <u>United States</u>, these reports present findings and recommendations separately.

The third classification of reports published annually by the National Science and Technology Council is the National Nanotechnology Initiative Supplement to the President's Budget. So far, 17 reports have been published under this title in various years. These reports provide Evaluation of the NNI budget and plans, level of progress towards NNI goals, and reviews on nanotechnology R&D by the agency.

b) In <u>Iran</u>, the first national nanotechnology program entitled The Future Strategy was published in 2005 and it encompassed policies and plans for the development of this emerging technology over a 10-year period. Ever since the approval of this program, the <u>Iran</u>

Nanotechnology Innovation Council has published performance reports of this program annually. Also, the second national nanotechnology program in <u>Iran</u> called Nanotechnology in <u>Iran</u> 2025: National Nanotechnology Development Program whose performance reports are also published per annum by the <u>Iran</u> Nanotechnology Innovation Council is underway. The performance <u>reports</u> of <u>Iran</u>'s nanotechnology programs are comprised of different sections such as the state of achievement of goals, actions, evaluation of indicators and program financing.

c) In <u>France</u>, the program Decree on the Annual Declaration on Substances at Nanoscale started in 2013. This program aims to improve knowledge on nanomaterials (identities, quantities, and uses) and provide transparency, traceability and information to consumers.

So far, <u>seven annual reports</u> of this program have been published by the Ministry of the Ecological Transition. The reports deal with subjects like the status of the accounts and reporting entities, declarations by the type of entity, exceptional cases of statements, analysis of confidentiality requests, and the reporting entities' economic activities.

d) In <u>Belgium</u>, the program Royal Decree Placing on the Market of Substances Manufactured in the Nanoparticular State has been run since 2014. The purpose of this program has been to establish a system to ensure the traceability of nanomaterials to identify potential risks and, if appropriate, respond quickly and effectively with regulatory actions.

To date, <u>five annual reports</u> of this program have been published by the Federal Public Service (FPS) Health, Food Chain Safety, and Environment. These reports state the status of registrations, companies, substances, supply chains, and sectors of use.

e) In <u>Switzerland</u>, the Action Plan on Synthetic Nanomaterials has been implemented nationally since 2008 and various reports have been published on the program. The Federal Office of Public Health has issued a baseline report, two states of implementation reports, an evaluation of implementation report and a report on the conclusion under this program.

The Swiss Office for Work and Social Policy Studies has also published a report on the evaluation of the program's implementation. These <u>reports</u> provide comprehensive information on the implementation status of the precautionary matrix and the effects of the measures taken.

f) In Norway, the National Nanotechnology and New Materials Program (NANOMAT) seeks to establish cooperation between research, industrial and market communities. The Research Council of Norway (RCN) has published two review reports regarding this program. One sums up ten years of activity of NANOMAT and the other deals with the evaluation of this program. However, concerning the NANO 2021 program, which is a continuation of the NANOMAT program, an evaluation report has been prepared by the Technopolis Group with the support of the Norwegian Research Council. In these reports, the status of support, funding of programs and implementation of research projects are reviewed in these reports, and various policy recommendations are provided.

g) In the <u>Netherlands</u>, the NanoNextNL Program is a national research program implemented by institutions such as ministries, universities, companies and various centers. In total, three types of evaluation reports on this program have been published. The first is a report called the NanoNextNL End Term Report, published by the executive board of the NanonextNL. The second type of evaluation report under this program, called Evaluation Valorization Program NanoNextNL, has been issued by the Technopolis Group on the order of the executive board of the program. Finally, the third report, published by the International Advisory Council (IAC), presents the findings of IAC regarding the NanoNextNL End Term Report to the executive board of NanonextNL.

These <u>reports</u> include the necessary evaluations of the Valorisation Program from various perspectives, including outputs and throughputs, primary results, key performance indicators, value of business cases, and effectiveness.

h) In <u>Austria</u>, the Austrian Nanotechnology Action Plan, as a national strategy, seeks to strengthen communication between stakeholders in the field. In a report, the Federal Ministry of Transport, Innovation and Technology published the status of the biennial implementation

of this program. In this <u>report</u>, the extent of progress on communication, information and cooperation as well as the level of implementation of research programs and projects are examined.

i) In <u>Denmark</u>, a pioneering program called Better Control of Nanomaterials has been adopted to increase the understanding and control of the harmful effects of nanomaterials. The Danish Environmental Protection Agency has published a summary of the 4-year <u>activity</u> of this program.

j) In <u>Germany</u>, the strategy Nanotechnology: Health and Environmental Risks of Nanomaterials is a national research strategy involving various ministries and organizations. An evaluation on the joint research strategy of German governmental research institutions regarding risks related to nanomaterials for humans and the environment, which was published by the Federal Environment Agency, can be found <u>here</u>. This report presents a review of over 80 projects on safety research in nanotechnology that the participating governmental research institutions have carried out independently or have awarded to external institutions based on the joint research strategy.

The analysis of these evaluation reports and their content details will soon be published in a separate report on StatNano.

Source

Policy Documents Database